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## Country Development Cooperation Strategy 2013 – 2017

### Biodiversity and Tropical Forestry Assessment Review

March 2014



## **AUTHORITY**

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This Morocco FAA 118/119 Assessment Report was completed in reference to the Project Order. The views expressed and opinions contained in this report are those of the Morocco FAA 118/119 Assessment author and do not necessarily reflect those of either USAID or the US Government.

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## Executive Summary

In accordance with the US government’s congressionally mandated Sections 118 and 119 of the 1961 Foreign Assistance Act (FAA), a country-wide analysis of biodiversity and tropical forestry conservation is required by law for USAID’s Country Development Cooperation Strategies (CDCS). The current Morocco national biodiversity and tropical forestry review was therefore commissioned for compliance with FAA sections 118 and 119 for USAID-Morocco’s 2013-2017 CDCS and is intended to inform mission planning for the proceeding five years.

The 2013-2017 USAID-Morocco CDCS program intends to focus on economic growth and peaceful reform via improving citizen involvement in public policy and supporting Civil Society Organizations (CSO) that promote policy reform. The approved 2013-2017 USAID-Morocco CDCS consists of three primary objectives:

- (1) Enhanced Employability of Targeted Youth
- (2) Increased Civic Participation in Governance
- (3) Enhanced Educational Attainment for Youth at the Primary Level

None of these objectives are intended to be directly associated with biodiversity and forest conservation. However, the 2013-2017 USAID-Morocco CDCS plan notes that “opportunities to support enhanced conservation through democracy and governance programming” are possible and advocacy for biodiversity and forest conservation could be linked to CSO support. Several opportunities exist for conservation via the new CDCS as well as to build on the 2008 Morocco Biodiversity and Tropical Forestry Assessment (Ecodit 2008).

A conventional in-depth biodiversity and forestry assessment was not contracted for this review, which was commissioned by USAID with the objective to be an update of the 2008 Assessment. In lieu of a more comprehensive assessment, a review of current available data, scientific and relevant literature and reports, and select interviews with experts in local government ministries, USAID-Morocco staff, and local and international environmental NGOs was commissioned. This review was analyzed in the context of FAA sections 117, 118, and 119 with a focus on integrating biodiversity, forest, and endangered/threatened species and ecosystem conservation into the primary development objectives of the 2013-2017 USAID-Morocco CDCS. In addition, as part of the TOR for the current review, the 2008 Morocco Biodiversity and Tropical Forestry Assessment Report (Ecodit 2008) needed to be reviewed and key sections of the report updated as necessary.

### **Threats and Constraints to Biodiversity and Forests in Morocco**

Despite numerous conservation initiatives and many other mechanisms, international conventions, actions, interventions, and government Ministries mandated to protect and manage

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the country's natural resources, Morocco's biodiversity and forests continue to deteriorate and are under increasing threat. All of the threats discussed in previous biodiversity and tropical forestry reviews for Morocco over the past two decades remain serious, with some increasing in significance. The latter include continuing and increasing threats to terrestrial and marine ecosystems from:

- ❖ Overgrazing / Over-Harvesting / Over-Use
- ❖ Urbanization
- ❖ Fragmentation
- ❖ Pollution
- ❖ Deforestation / Conversion
- ❖ Climate Change

Other direct constraints that both impede and exacerbate conservation problems on the ground continue to be:

- ❖ Lack of Best Management Practices at All Levels
- ❖ Insufficient Capacity, Skills, Resources, and Staffing at Local And Government Levels
- ❖ Poor Governance
- ❖ Insufficient Funding
- ❖ Insufficient Implementation and Enforcement
- ❖ Lack of Adequate General Public and Institutional Environmental Education
- ❖ Insufficient Political Will *In Practice*
- ❖ International Institutional Pressures and National Socio-Economic Climate
- ❖ Poverty and Disaffection

Given the increasing and pervasive influence of climate change on every aspect of the local and global environments, particularly in vulnerable regions such as Morocco with highly sensitive ecosystems profoundly reliant on climatic influences, climate change is perhaps one of the most significant threats to biodiversity and forests in Morocco and should be given special consideration. Indeed, climate change is a dominant threat to Morocco's environment as well as its economic, political and social systems. As such, climate change also paradoxically serves as 1) a critical paradigm shift for Morocco to improve all aspects of its society and socio-economic development in addition to implementing decisive conservation measures and 2) a common environmental, governance, employment, and educational policy modality to tie together USAID-Morocco's CDCS objectives and achieve its 2013-2017 goals and beyond. It is recommended, therefore, that climate change be the common thematic focus for each of the 2013-2017 CDCS objectives.



For USAID-Morocco and the Moroccan government, ensuring a sustainable future requires combining development and environment issues that account for the interests of all stakeholders, especially the disadvantaged, disaffected, women, and the poor. Thus, climate change ironically provides an auspicious opportunity for USAID-Morocco to synergize its 2013-2017 CDCS objectives and, consequently, advance positive individual results as well as combined effects that are greater than the sum of their separate outcomes.

### **Effectiveness Of Current Conservation Initiatives In Morocco**

Many local, national, and international institutions and environmental organizations have been active in Morocco with concerted efforts to improve conservation for Morocco's biodiversity and forests. Nevertheless, Morocco's forests, wildlife, wetlands, marine and terrestrial ecosystems, and both terrestrial and marine biodiversity remain threatened, significantly in some cases, and continue to decline.

#### ***Causes and Necessary Actions***

The causes of continued environmental degradation in Morocco vary. Issues range from problems with local implementation and enforcement, insufficient technical skills, capacity and resources, poor management practices, and both local and commercial overharvesting and overgrazing – some of which are steeped in cultural tradition – to climate change and strong systemic and international pressures that are difficult or impossible to contain. The latter include socio-economic and development pressures at all levels of society, politics, urbanization, and cultural norms. While some conservation actions currently in place like the Protected Areas Network are helping the situation to some degrees, most are acting more as temporary band aids. Essentially, conservation in Morocco in general is only moderately effective, is inadequate to guard against the numerous impacts of climate change, and requires concerted reexamination. Several measures currently in place demand more significant alterations. The latter include, but are not limited to:

- ❖ Policies Regarding Fragmentation, Development, and Urbanization
- ❖ Land Tenure and Resource Access Rights (Terrestrial and Marine)
- ❖ Grazing and Range Management
- ❖ Freshwater Use, Protection, and Conservation
- ❖ Erosion Control
- ❖ Pollution Legislation and Enforcement Mechanisms
- ❖ Legal and Regulatory Conservation Frameworks
- ❖ Participatory Management Policies and Implementation, Including for CSOs
- ❖ Marine, Estuary, and Natural Freshwater Wetland Protected Areas
- ❖ Agriculture, Forestry, and Fisheries Best Management Practices



- ❖ Legislation Regarding Take of Threatened Animals and Plants
- ❖ National Biodiversity Policies and Monitoring
- ❖ General Environmental Awareness

Furthermore, issues such as climate change and socio-economic development and governance initiatives require cogent, timely, and significant national proactive measures that unite diverse issues and interests via thoughtful and cohesive policy reform. New policy development and reforms needed include:

- ❖ National Climate Change Legislation
- ❖ Integrated Terrestrial and Marine Biodiversity Monitoring and Legislation
- ❖ Integrated National Energy Legislation
- ❖ Integrated National Green Economy Policy
- ❖ Green Economy Education Scholarships, Training, and Loans
- ❖ National Environmental Awareness Campaigns (General Public and Schools)
- ❖ Environmentally Sustainable Urban Growth Policy and Planning
- ❖ National Contiguous Forest Policy
- ❖ National Institution Capacity Policies

### **Analysis And Effectiveness Of Current USAID And USG Conservation Programs**

USAID-Morocco engaged in several indirect conservation initiatives during the previous Country Assistance Strategy (CAS) cycle, but there are no conservation measures carrying-over from previous years or new projects currently in place for its 2013-2017 strategy. Although the goals and objectives of the 2013-2017 CDCS do not support or hinder biodiversity and forest conservation, none of its development objectives are linked to the actions needed for biodiversity and forest conservation in Morocco as called for in the Foreign Assistance Act. Thus, the Mission's current programming requires specific focus on and objectives for conservation in order to be in legal compliance with Foreign Assistance Act sections 117, 118, and 119.

The Mission is in a good position to improve conservation in Morocco via its 2013-2017 CDCS while achieving its CDCS objectives with little or no budgetary or programmatic infringement. Moreover, several US government programs exist in Morocco via the US Forest Service (USFS) independent of USAID and new USFS programs are being actively discussed with USAID-Morocco. These are all good projects with the potential for USAID partnership.



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It is certain that improving sustainable development, economic growth, governance, disaffection, stability, and peaceful reform cannot occur without direct and substantive conservation of biodiversity, forests, and natural resources. In effect, direct conservation action is in the strategic interests of both Morocco and the United States. The 2013-2017 USAID-Morocco program intends to focus on economic growth and peaceful reform via improving citizen involvement in public policy and supporting civil society organizations that promote policy reform. Although none of these objectives are intended to be directly associated with biodiversity and forest conservation, it is certain that the USAID-Morocco Mission has very good intentions for helping both Moroccan society and its environment and it intends to implement conservation in some form during the current CDCS.

Data indicate that when conservation measures are implemented *post hoc* after CAS or CDCS development objectives that exclude conservation have been approved, substantive long-term success is diminished. Analysis of conservation initiatives in Morocco for the past 3 decades as well as consensus among external experts indicates that USAID needs to include environmental considerations *a priori* and throughout the CDCS planning and development process for its future 5-year strategies in order to secure meaningful and sustainable conservation successes. Furthermore, it is recommended that a comprehensive biodiversity and forestry assessment for Morocco be conducted in advance of the next CDCS planning process.

### ***Recommended Policy Framework***

Given the interdependent nature of the issues and the unquestionable reality that biodiversity is essential to human well-being, it is recommended that USAID adopt an internal policy framework that would both mandate more concerted focus on conservation while achieving the primary foreign development goals of the Agency and tie them together. As with climate change, which can provide a common modality among Mission goals and advance greater successes, the following four principles can serve as a guiding policy framework ensuring that each objective is successful while synergistically enabling more comprehensive achievement for the mission's overall development goals.

- 1) Equitable, Fair, and Sustainable Socio-Economic Development
- 2) Good Governance
- 3) Environmental Conservation
- 4) Cultural Preservation

It has been demonstrated in practice and in decades of research through multiple indicators that, if policies and legislation are required to fall within these four guiding principles, there is a significantly higher probability of achieving most, if not all, of the types of development goals adopted by USAID with greater success and public support. Therefore, it is recommended that USAID-Morocco use these four tenets as its guiding policy for refining the current CDCS and in planning future CDCS development and goals.



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## **Opportunities For USAID Enhancement of Biodiversity And Forest Conservation**

Although the 2013-2017 USAID-Morocco CDCS does not have explicit conservation objectives, it notes that “opportunities to support enhanced conservation through democracy and governance programming” are possible and advocacy for biodiversity and forest conservation could be linked to CSO support. A number of conventional conservation measures are available for USAID in Morocco. These can include direct aid, increasing the Protected Area Network, community cooperative management, value chains, training (particularly regarding technical skills and Best Management Practices), capacity-building (including for government, civil society organizations, industry, and local public), and public awareness and education, among many others. However, many of these methods may not be possible within the structure, objectives, and budget of the current CDCS.

Funding has already been apportioned to the three current CDCS development objectives and there is little opportunity for programmatic changes. Given the current CDCS objectives, some indirect conservation measures more germane to this current CDCS with less budgetary need could entail:

- ❖ Capacity Development for Local Government and Environmental CSOs
- ❖ Green Job Creation, e.g. Reforestation, Natural Resource Management, etc.
- ❖ Green Economy Promotion – Alternative Energy Sector Addressing Climate Change
- ❖ Higher Education Development in Green Economy And Energy Sectors
- ❖ Primary School Student Education Training and Materials in Biodiversity Conservation
- ❖ Teacher Training and Education in Biodiversity Conservation
- ❖ Community Participation, Governance and Empowerment in Green Legislation, Policy Implementation, and Green Party Development

It is advisable that the USAID-Morocco Mission attempt to implement conservation measures such as those above, which would lead to a number of improvements in Moroccan biodiversity conservation on many levels in a substantive manner. However, it is understood that there may be the need for funding that could infringe on the finalized CDCS budget and programs. Therefore, implementing more focused indirect conservation measures without significant budget or programmatic alterations is recommended at this time and could be linked to each of the three CDCS development objectives at little to no cost.



### ***Recommended Biodiversity and Forestry Conservation Measures***

Given the CDCS focus and budgetary limitations and based on recommendations by experts during this review, the following are specific recommendations for USAID-Morocco to integrate focused conservation measures into its 2013-2017 CDCS. These actions require little to no investment, particularly if implemented via outsourcing and partnerships with other organizations and agencies, and will achieve the Mission's primary CDCS goals. Each of these actions can entail special focus on gender parity and can integrate climate change, sustainable growth, and peaceful reform as common themes within a general policy framework noted above. Furthermore, in addition to these specific actions directly related to the CDCS, it is advised that a general education objective could be achieved via repackaging USAID-Jordanian or other environmental education leaflets for the general public in Morocco.

#### ***CDCS Development Objective 1: Enhanced Employability Of Targeted Youth***

- 1) Outsourced Capacity and Technical Skills Training in Alternative Energy and Green Economy Sector (University Credit, Training Courses, Community College Models)
- 2) Outsourced Technical Skills Training and Enhanced Higher Education Development in Natural Resource Management and Best Management Practices for Agriculture, Biodiversity, Forestry, Wetlands, Coastal and Pelagic Fisheries, and Wildlife

#### ***CDCS Development Objective 2: Increased Civic Participation In Governance***

- 1) Outsourced Capacity-Building for Forestry & Terrestrial and Marine Biodiversity
  - a. Government Ministries
  - b. Advocacy – Civil Society Organizations
  - c. Local Public (Best Management Practices)
- 2) Outsourced Green Party and/or CSO Green Party Capacity Development
  - a. Focus on Governance, Environment, Gender, and Peaceful Reform

#### ***CDCS Development Objective 3: Enhanced Educational Attainment For Youth At The Primary Level***

- 1) Supplementary Reading Materials



## **Next Steps and Conclusion**

There are many options and opportunities for USAID-Morocco to integrate conservation within its 2013-2017 Country Development Cooperation Strategy. The measures outlined in this review would not only satisfy US Foreign Assistance Act legal requirements, but would need little to no investment by USAID, would not impede pre-approved funding or programming, and will enhance youth employability, truly sustainable economic growth, improved governance and citizen participation, gender equality, and literacy while addressing essential conservation needs, including climate change. Although they are indirect, these measures are focused and maintain the principal goal of biodiversity conservation first and would not have any negative impacts. Thus, even as indirect measures these actions provide a win-win scenario.

The advised indirect conservation measures are therefore recommended as means to advance conservation within the existing CDCS objectives with little to no budgetary or programmatic infringement. Given that USAID-Morocco is not in a position to implement or staff such measures, their success would require external expert involvement. It is therefore advised that USAID-Morocco engage in partnerships, including via Requests for Proposals with US and European universities, NGOs, other government agencies, international institutions, and outside experts to provide assistance with developing these measures and/or their implementation. As a final option for both the development and implementation of appropriate conservation measures for CDCS plans, it would be advisable for USAID-Morocco to establish either a new position or an extended consultancy staffed with at least one biodiversity expert who has commensurate education and experience to guide the CDCS process relative to conservation throughout its planning, development and implementation.



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## **USAID | Morocco**

# **Biodiversity and Forest Assessment Review**

## **2013 – 2017**

### **Introduction**

Morocco is one of the 25 most biologically rich and endangered Ecoregions on Earth and its biodiversity is considered one of the most diverse of the Mediterranean basin and Arabic world. With a diversity of at least 31,000 species, of which approximately 7.36% are threatened – 80% of which are plants – Morocco has the highest concentration of marine biodiversity and the second highest concentration of terrestrial biodiversity in the Mediterranean Basin. Although Morocco recently adopted a National Charter for Environment and Sustainable Development and there are now 11 national parks/natural parks along with 160 Sites of Biological/Ecological Interest, the preponderance of evidence among scientific assessments indicates that the biodiversity and forests of Morocco remain under significant threat.

In accordance with the US government’s congressionally mandated Sections 118 and 119 of the 1961 Foreign Assistance Act (FAA), a country-wide analysis of biodiversity and tropical forestry conservation is required by law for USAID’s Country Development Cooperation Strategies (CDCS). Thus, the current Morocco national biodiversity and tropical forestry review was commissioned for compliance with FAA sections 118 and 119 for USAID-Morocco’s 2013-2017 CDCS and is intended to inform mission planning for the proceeding five years.

The 2013-2017 USAID-Morocco program intends to focus on economic growth and peaceful reform via improving citizen involvement in public policy and supporting Civil Society Organizations (CSO) that promote policy reform. The approved 2013-2017 USAID-Morocco CDCS consists of three primary objectives:

- (1) Enhanced Employability of Targeted Youth
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None of these objectives are intended to be directly associated with biodiversity and forest conservation. However, the 2013-2017 USAID-Morocco CDCS notes that “opportunities to support enhanced conservation through democracy and governance programming” are possible and advocacy for biodiversity and forest conservation could be linked to CSO support. Indeed, opportunities exist for conservation via the new CDCS as well as to build on the 2008 Morocco Biodiversity and Tropical Forestry Assessment (Ecodit 2008), which also notes several indirect opportunities within similar non-conservation related objectives for its Country Assistance Strategy (CAS).



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## Methods

A conventional in-depth biodiversity and forestry assessment was not contracted for this review, which was commissioned by USAID with the objective to be an update of the 2008 Assessment. USAID's rationale for conducting a review and update rather than a full biodiversity assessment is the programmatic scope and development objectives of the 2013-2017 CDCS, as requested by USAID-Morocco and approved by USAID-Washington and the Regional Bureau Environmental Office. In lieu of a more comprehensive assessment, a review of current available data, scientific and relevant literature and reports, and select interviews with experts in local government ministries, USAID-Morocco staff, and local and international environmental NGOs was commissioned.

This review and assessment were analyzed in the context of FAA Sections 117, 118, and 119 for integrating biodiversity, forest, and endangered/threatened species and ecosystem conservation into the primary development objectives of the 2013-2017 USAID-Morocco CDCS. It should be noted that although Section 117 of the FAA was not included in the TOR for this review, this FAA Section is highly germane to the current 2013-2017 USAID-Morocco CDCS and was included in this analysis:

The Foreign Assistance Act, Part 1, Section 117\71\Environment and Natural Resources, which include biodiversity and tropical forests, highlights several relevant issues for the USAID-Morocco Mission and its 2013-2017 CDCS:

*“Congress finds that if current trends in the degradation of natural resources in developing countries continue, they will severely undermine the best efforts to meet basic human needs, to achieve sustained economic growth, and to prevent international tension and conflict....*

*It is, therefore, in the economic and security interests of the United States to provide leadership both in thoroughly reassessing policies relating to natural resources and the environment, and in cooperating extensively with developing countries in order to achieve environmentally sound development...*

*Special efforts shall be made to maintain and where possible restore the land, vegetation, water, wildlife and other resources upon which depend economic growth and human well-being especially that of the poor.”*

Given timing and the approved 2013-2017 strategic plan does not include any conservation objectives, the only alternative at this point in the process was to a) review Morocco's environmental conditions and needs relative to the 2013-2017 CDCS, b) analyze how the 2013-2017 CDCS meets or does not meet the needs of biodiversity and tropical forestry conservation, and c) develop and prioritize direct and/or indirect conservation measures for the current and foreseeable future environmental conditions that could be realistically achieved



within the current CDCS objectives and could possibly build on the 2008 Assessment. Actions where U.S. advantages and capabilities are likely to have the greatest impact were prioritized.

Literature reviewed and expert interviews were chosen given the situation and context noted above and are provided in Appendix I. Given the very short time, only a limited number of strategic interviews could be held during the field visit. Fortunately, the interviews were comprised of experts with broad knowledge and experience and who had concrete recommendations for measures to improve biodiversity and forest conservation in Morocco.

In addition, the TOR for this review recommended site visits and the consultant advised a light plane over-flight of critical areas to examine the general environmental conditions. However, given time and budgetary constraints only one nearby site visit was feasible and no over-flights were possible.

## **2008 Morocco Biodiversity and Forest Assessment Report Updating**

As part of the TOR for the current review, the 2008 Morocco Biodiversity and Tropical Forestry Assessment Report (Ecodit 2008) required review and key sections of the report updated as necessary. The primary sections for review were:

- 1) Overview of the Biodiversity and Ecosystems of Morocco
- 2) Threats Analysis
- 3) Constraints to Conservation
- 4) Identifications of Actions Needed
- 5) Effectiveness of Ongoing Conservation Initiatives
- 6) Analysis of the CDCS and USG Programs
- 7) Identification of Opportunities for USG Programs

The 2008 Assessment report was reviewed extensively and found to be a sufficient analysis of the situation and a good reference document. The 2008 Assessment's (Ecodit 2008) overviews of biodiversity and ecosystems of Morocco remain current and do not require updating. Threats, constraints, and their root causes were reexamined, but because the threats to biodiversity and forests along with constraints to their conservation identified by the 2008 Assessment team remain the same today, these sections to the 2008 report also did not require significant updating, with the exception of a threat that was previously not discussed in detail: Climate Change, which is reviewed in this report. In effect, despite numerous conservation measures, new government policies, legislation, etc. by a host of organizations, all of the negative impacts on biodiversity and forests in Morocco noted in the 2008 Assessment remain and some have worsened.



Sections that required updating due to the passage of time and current CDCS objectives were the following and are discussed further in this report:

Sections:

- (2-3) Threats and Constraints
- (4) Identification of Actions Needed
- (5) Effectiveness of Ongoing Conservation Initiatives
- (6) Analysis of CDCS and USG Programs (Relative to Biodiversity and Forest Conservation)
- (7) Identification of Opportunities for the USG and USAID Programs (to Enhance Biodiversity and Forest Conservation)



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## Status of Biodiversity and Forestry Conservation in Morocco

### Threats and Constraints

Conservation of Morocco's biodiversity, forests, and natural resources has undergone numerous phases in the country's history. Morocco has endured unregulated use and exploitation for centuries as well as the more recent institution of national parks/natural parks, community co-management projects, special Sites of Biological and Ecological Interest, Biosphere Reserves, a National Biodiversity Strategy and Action Plan, and a National Charter for Environment and Sustainable Development, among other local, national, regional, and international initiatives. Yet, despite these and many other mechanisms, international conventions, actions, interventions, and government Ministries mandated to protect and manage the country's natural resources, Morocco's biodiversity and forests continue to deteriorate and are under increasing threat.

All of the threats discussed in previous biodiversity and tropical forestry reviews for Morocco over the past two decades remain serious, with some increasing in significance. The latter include continuing and increasing threats to terrestrial and marine ecosystems from:

- ❖ Overgrazing / Over-Harvesting / Over-Use
- ❖ Urbanization
- ❖ Fragmentation
- ❖ Pollution
- ❖ Deforestation / Conversion
- ❖ Climate Change

The 2008 Assessment (Ecodit 2008) reported that Morocco's legal, policy, and regulatory frameworks are insufficient. While this remains true, these areas are improving, particularly with a number of new laws, policies, and conservation mechanisms. Nevertheless, much more development and expert focus in these sectors are needed. Other direct constraints that both impede and exacerbate conservation problems on the ground continue to be:

- ❖ Lack of Best Management Practices at All Levels
- ❖ Insufficient Capacity, Skills, Resources, and Staffing at Local And Government Levels
- ❖ Poor Governance
- ❖ Insufficient Funding
- ❖ Insufficient Implementation and Enforcement



- ❖ Lack of Adequate General Public and Institutional Environmental Education
- ❖ Insufficient Political Will *In Practice*
- ❖ International Institutional Pressures
- ❖ National Socio-Economic Climate
- ❖ Poverty and Disaffection

All of these influences and threats have been thoroughly reviewed in numerous scientific studies, government and institutional projects, national and international initiatives, academia, and elsewhere, including in the 2008 Assessment (Ecodit 2008) and were not required for updating in this report. However, given the increasing and pervasive influence of climate change on every aspect of the local and global environments, particularly in vulnerable regions such as Morocco with highly sensitive ecosystems profoundly reliant on climatic influences, climate change is perhaps one of the most significant threats to biodiversity and forests in Morocco, as well as Moroccan society, and should be given special consideration.

Climate change is a dominant threat to Morocco's environment as well as its economic, political and social systems. As such, climate change also paradoxically serves as 1) a critical paradigm shift for Morocco to improve all aspects of its society and socio-economic development in addition to implementing decisive conservation measures and 2) a common environmental, governance, employment, and educational policy modality to tie together USAID-Morocco's CDCS objectives and achieve its 2013-2017 goals and beyond. It is recommended, therefore, that climate change be the common thematic focus for each of the 2013-2017 CDCS objectives.

## **Climate Change**

### ***Climate Change Effects on Moroccan Society***

In 2012, at least 70% of all major droughts around the world occurred in Africa. The U.N. Intergovernmental Panel on Climate Change (IPCC) has projected that 75-250 million people in Africa will be subjected to excessive water stress conditions with some countries experiencing as much as 50% declines in rain-fed agricultural yields by 2050. Climate change presents a very significant risk for all portions of Morocco, particularly for food security given a substantial proportion of the country's economy depends on climate-sensitive resources, such as agriculture. Climate change impacts Morocco's primary reliance on these resources and exacerbates problems across all sectors of Moroccan society, the environment, and the economy, including declines in agricultural yields, municipal water supplies, sanitation services, and industrial water use for commercial enterprises, among many others. Negative shifts in rainfall and temperature also have destabilizing effects and increase the risk of conflict over water and water-dependent resources, including grazing lands, increase insect-borne diseases, and threaten lives, property, and the viability of both local communities and the fabric of economies.



Several robust scientific studies demonstrate that precipitation in North Africa is likely to decrease between 10% and 20% or more with a concurrent rise in temperatures between 2<sup>0</sup>C and 3<sup>0</sup>C by 2050, with the most prominent effects in the northwestern region of North Africa. Studies show that a 10% decrease in precipitation in regions on the upper regime boundary (1,000 mm/year) would have reduced water drainage by 17%, while regions receiving 500 mm/year would have a 50% cut in surface drainage. In addition, the synergistic effects of strong population growth with decreasing water supplies are currently exacerbating water stress, which will increase and intensify in the next two decades. Indeed, It has been shown that the macro-economic impact of extreme drought and flooding episodes is already significant throughout Africa. For example, climate-related problems have reduced Mozambique's GDP growth by more than 1% per year and erratic rainfall is reducing agricultural growth in Zambia by 1% per year and will cost \$4.3 billion in GDP over 10 years.

Climate change effects in Morocco can have as significant or even greater negative impacts. Relative to the four other North African countries, climate change is expected to have the strongest impact on Morocco where the agriculture sector plays a significant role in the economy, particularly for the rural poor. Agriculture provides direct employment and income for at least 46% of the Moroccan population with at least 60,000 jobs producing as much as 18-19% of GDP. In addition, climate change is predicted to increase pest and crop disease outbreaks and significantly affect livestock. As a result, the environmental effects of climate change are expected to have serious and major negative impacts on the social, economic, development, governance, and environmental sectors of Morocco.

Several recent studies suggest that current agricultural incentives are insufficient to protect or buffer against the effects of climate change in Morocco. The effects of climate change need to be addressed, particularly at the household level so that poor and vulnerable people dependent on agriculture can be appropriately targeted in research and development activities with poverty alleviation goals. To increase resilience and enhance sustainable growth and socio-economic development over the long-term, it is recommended that:

- a) Policies change urgently from maximization to stabilization;
- b) Investments be made in the development of agricultural products that thrive in water stressed environments; and
- c) USAID and the Moroccan government incentivize Best Management Practices, particularly regarding water use, pollution, and soil conservation.

In addition, it is recommended that Moroccan government policies and USAID goals promote:

- 1) Alternative incomes and energies with emphasis on incentivizing the alternative energy sector throughout all segments of development, governance, education, employment, and society;



- 2) Emissions reductions from deforestation, conversion, and degradation via REDD+;
- 3) Reclaim degraded lands;
- 4) Support and incentivize reforestation;
- 5) Support and incentivize afforestation (where ecologically appropriate and necessary);
- 6) Support and promote agro-forestry; and
- 7) Provide social safety nets for the most vulnerable.

Many of these types of initiatives will increase employment, particularly in the fast growing and globally important renewable energy sector as well as in rural communities (e.g. via reforestation, reclamation, etc.). Such initiatives can also include participatory community development approaches, educational opportunities, improved governance and institutional capacity (including for Civil Society Organizations), energy independence, and enhanced and sustainable economic growth over the long-term. Thus, it is recommended that USAID strongly consider these initiatives for its 2013-2017 CDCS.

Climate change also presents a paradigm shift for gender issues. Gender-related inequalities are prevalent in Morocco and throughout the developing world. At least 70% of the developing world's 1.3 billion people living below the poverty line are women. In Africa, although women comprise almost 80% of the agricultural sector, they continue to receive the least income and voice while remaining vulnerable and poor. Given the effects of climate change on agriculture in Morocco, it is vital that its impacts should not further marginalize and disaffect the most vulnerable and populous sections of society and drive further deprivation. Policies need to put women, the poor, and most vulnerable both at the center of the debate and in strategic plans for sustainable development.

For USAID-Morocco and the Moroccan government, ensuring a sustainable future requires combining development and environment issues that account for the interests of all stakeholders, especially the disadvantaged, disaffected, women, and the poor. Thus, climate change ironically provides an auspicious opportunity for USAID-Morocco to synergize its 2013-2017 CDCS objectives and, consequently, advance positive individual results as well as combined effects that are greater than the sum of their separate outcomes.

### ***Climate Change Effects on Moroccan Biodiversity and Forests***

The preponderance of data show that the negative impacts of climate change on forests and terrestrial and marine biodiversity in Morocco are serious, increasing, and significant. In effect, climate change affects every aspect of the environment and is intricately linked to all levels of human society in Morocco. For some species in some regions and ecosystems of the world, climate change presents some benefits, including population growth and expansion. However, the predominate effects on Moroccan species and ecosystems is negative, with moderate to significant declines and extinctions.



For example, substantial mortality of the economically, culturally, and ecologically important Atlas Cedar (*Cedras atlantica*) by as much as 40% of the population has been directly linked to severe drought induced by climate change. Other data demonstrate that a threshold exists at the boundary between arid and semiarid areas of North Africa, where only a relatively small climatic variation in temperature and rainfall is being seen to shift the borders between these two systems, expand desertification, reduce native fauna and flora populations – some of which are highly endangered – and increase invasive species that can exist in arid conditions. Mountain areas are also particularly sensitive to climate change, where seasonal and annual variations in climate already strongly influence native mountain flora and fauna along with mountainous agro-ecosystems. Ironically, climate change will also increase flooding in Morocco, which has significant negative effects on the environment and local communities, but due to the varying effects of warming the amount of freshwater retained from these episodes will decline.

According to the IPCC and a 2011 study regarding the impacts of climate change in Morocco, if increases in global average temperature surpass 1.5-2.5°C over the 1980-1999 levels (which is below the levels of predicted rise in the next few decades), then 20-30% of plant and animal species analyzed to date are at increased risk of extinction. An important dimension that is exacerbating natural ecological dynamics is that given Morocco's water exploitation index already exceeds 50%, as water resources become limited with climate change it is predicted that many species of plants and animals will be lost due to farming and human needs.

### ***Terrestrial Mammals***

Studies show that a substantial number of Mediterranean mammals, particularly endemic species, are severely threatened by climate change. Models demonstrate that important changes in potential species richness will occur, with most of the region in species decline, primarily in North Africa and Spain. The models further demonstrate that the highest species turnover and net species lost will be localized, particularly in northern Africa and Spain, where climate change will also strongly affect existing protected areas, with most protected areas in North Africa losing a substantial number of species along with significant shifts in community structure. Furthermore, species richness is predicted to shift and the extinction risk will increase for many endemic and threatened species. Consequently, the current protected area network is not expected to conserve existing species effectively and it is recommended by scientists that expanding the protected area network is urgently needed in northern Africa.

### ***Freshwater Wetlands***

Freshwater wetlands hold notable levels of biodiversity. It has been found that natural, freshwater bodies most affected by wetland loss hold more species of aquatic plants and invertebrates and, thus, are extremely important for threatened water birds. In fact, the number of plant species in natural wetlands was found to be strongly correlated with the number of threatened water bird species. Natural freshwater wetlands are also a highly valuable resource for local Moroccan communities, provide an extremely important resource for the agricultural sector and Morocco as a whole, and are naturally threatened by climate change. Thus, because most natural wetlands in Morocco are unprotected, these ecosystems require urgent attention.



## ***Marine Systems***

Climate change has been shown to seriously impact marine biodiversity across its multiple ecosystems, particularly coastal zone resources, which are critical not only to support the artisan fishery supply chain in the Mediterranean but also ecologically for pelagic fish populations and these important protein and economic resources for Morocco. Thus, the rippling effects are distinct. Indeed, in a study comparing the vulnerability of 132 national economies, those of North Africa were identified as the most vulnerable to climate change impacts on their fisheries.

This vulnerability was found to be the result of the combined effect of warming, the importance of fisheries to national diets and economies, and limited capacity to adapt to potential impacts and opportunities. Analyses suggest that such impacts are expected to lead to increased economic problems and lost opportunities for development in countries with a moderate to strong dependence on fisheries, such as Morocco, yet lack the capacity to adapt. Thus, again, the impacts of climate change on biodiversity can be not only profound ecologically, but extend far beyond the environment to human society.

In terms of broader coastal zone issues, models show that the eastern Mediterranean coast of Morocco is both socio-economically and physically vulnerable to accelerated sea-level rise from Climate Change. Study results indicate that shoreline erosion will affect 50% and 70% of the total area in 2050 and 2100, respectively, and 24% - 59% of the area will be lost to flooding, with the most severely impacted sectors predicted to be residential, recreational, agricultural land, and the natural ecosystem. In addition, decreases in rainfall and runoff or increases in sea level could increase the loss of coastal estuaries that are critical for shore and migratory birds along with numerous other species, many of which use estuaries as essential nurseries for their populations.



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## Effectiveness Of Current Conservation Initiatives In Morocco

Over the past decade Morocco has instituted new environmental legislation, created protected areas, empowered environmental Ministries, strengthened its National Biodiversity Strategy and Action Plan, and created a National Charter for Environment and Sustainable Development, among other conservation measures. Many international institutions and environmental organizations have also been active in Morocco with concerted efforts to improve conservation for Morocco's biodiversity and forests. Nevertheless, Morocco's forests, wildlife, wetlands, marine and terrestrial ecosystems, and both terrestrial and marine biodiversity remain threatened, significantly in some cases, and continue to decline.

### Causes and Necessary Actions

The causes of continued environmental degradation in Morocco vary. Issues range from problems with local implementation and enforcement, insufficient technical skills, capacity and resources, poor management practices, and both local and commercial overharvesting and overgrazing – some of which are steeped in cultural tradition – to climate change and strong systemic and international pressures that are difficult or impossible to contain. The latter include socio-economic and development pressures at all levels of society, politics, urbanization, and cultural norms. While some conservation actions currently in place like the Protected Areas Network are helping the situation to some degrees, most are acting more as temporary band aids. Essentially, conservation in Morocco in general is only moderately effective, is inadequate to guard against the numerous and growing impacts of climate change, and requires concerted reexamination.

Some conservation and mitigation measures simply need more financial or political support. However, it is important to note that both evidence and consensus among experts indicates that while funding matters, throwing money at conservation projects with intentionally restricted lifespans (e.g. 3-5 years), that have limited vision, or that were intended for political ends or public or institutional relations does not help. In addition, several measures currently in place demand more significant alterations. The latter include, but are not limited to:

- ❖ Policies Regarding Fragmentation, Development, and Urbanization
- ❖ Land Tenure and Resource Access Rights (Terrestrial And Marine)
- ❖ Grazing and Range Management
- ❖ Freshwater Use, Protection, and Conservation
- ❖ Erosion Control
- ❖ Pollution Legislation and Enforcement Mechanisms
- ❖ Legal and Regulatory Conservation Frameworks
- ❖ Participatory Management Policies and Implementation, Including for CSOs



- ❖ Marine, Estuary, and Natural Freshwater Wetland Protected Areas
- ❖ Agriculture, Forestry, and Fisheries Best Management Practices
- ❖ Legislation Regarding Take of Threatened Animals and Plants
- ❖ National Biodiversity Policies and Monitoring
- ❖ General Environmental Awareness

Furthermore, it should be clearly emphasized that issues such as climate change and socio-economic development and governance initiatives require cogent, timely, and significant national proactive measures that unite diverse issues and interests via thoughtful and cohesive policy reform. New policy development and reforms needed include:

- ❖ National Climate Change Legislation
- ❖ Integrated Terrestrial and Marine Biodiversity Monitoring and Legislation
- ❖ Integrated National Energy Legislation
- ❖ Integrated National Green Economy Policy
- ❖ Green Economy Education Scholarships, Training, and Loans
- ❖ National Environmental Awareness Campaigns (General Public and Schools)
- ❖ Environmentally Sustainable Urban Growth Policy and Planning
- ❖ National Contiguous Forest Policy
- ❖ National Institution Capacity Policies



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## Analysis And Effectiveness Of Current USAID And USG Conservation Programs In Morocco

USAID-Morocco engaged in several indirect conservation initiatives during the previous Country Assistance Strategy (CAS) cycle, but there are no conservation measures carrying-over from previous years or new projects currently in place for its 2013-2017 strategy. Although the goals and objectives of the 2013-2017 CDCS do not support or hinder biodiversity and forest conservation, none of its development objectives are linked to the actions needed for biodiversity and forest conservation in Morocco as called for in the Foreign Assistance Act. Thus, the Mission's current programming requires specific focus on and objectives for conservation in order to be in legal compliance with Foreign Assistance Act sections 117, 118, and 119.

USAID is in a good position to improve conservation in Morocco via its 2013-2017 CDCS while achieving its CDCS objectives with little or no budgetary or programmatic infringement. Moreover, several US government programs exist in Morocco via the US Forest Service (USFS) independent of USAID and new USFS programs are being actively discussed with USAID-Morocco. These are all good projects with the potential for USAID partnership.

As noted in the 2008 Biodiversity and Tropical Forestry Assessment (Ecodit 2008) and in the Morocco Economic Competitiveness (MEC) Final Report (DAI 2013), USAID supported various initiatives attempting to indirectly address conservation during the previous CAS cycle, such as the rosemary value chain and agricultural water use. The MEC agricultural water use project illustrates the need for more integrated CDCS and conservation objectives. In this case, the project's objectives "focused on improving the management of water used in agriculture to optimize productivity and profitability" and were "aimed at increasing food security, boosting Moroccan agricultural exports, and conserving water" based on the "three pillars of investment, production, and markets". Although the water conservation goals are for agricultural use and not biodiversity, it nonetheless addresses water conservation in terms of agriculture, which can have a possible temporary and/or tertiary effect on other aspects of the environment. Such initiatives are valuable, but without specific biodiversity goals they are less effective for biodiversity conservation and their primary goals of economic development can have unintended consequences on biodiversity, as noted in the 2008 Assessment (Ecodit 2008) as well as the report itself:

*"Usually, natural resource conservation and the commercial exploitation of protected lands are incompatible. The demand for arable land for farming is one of the leading causes of deforestation around the globe and threatens what remains of many of the world's natural forests and woodlands, habitats that are rich in their biological diversity"* (DAI 2013).



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It is certain that improving sustainable development, economic growth, governance, disaffection, stability, and peaceful reform cannot occur without direct and substantive conservation of biodiversity, forests, and natural resources. In effect, direct conservation action is in the strategic interests of both Morocco and the United States. As such, despite not having explicit conservation objectives in its previous CAS, USAID programmed other initiatives through its Results Framework and the Morocco Economic Competitive (MEC) project. These included a climate change vulnerability assessment through MEC in 2010, which identified specific threats, including related to sea level rise and reduced availability of water resources along with potential mitigation and adaptation strategies. MEC activities also focused on opportunities for conserving existing water resources and developing new sources, such as groundwater and treated wastewater, which can reduce stresses on other natural sources. Through MEC, USAID also supported efforts to move farmers toward using alternative sources of energy, particularly renewable energy instead of fossil fuels. This included piloting a solar-powered drip irrigation system at the Oujda wastewater treatment plant.

Although there have not been specific native biodiversity conservation objectives in the last three consecutive CAS and CDCS development plans, USAID supported the conservation of native biodiversity through grants to farmers near a Ramsar Convention site during the previous CAS cycle to help protect the Oualidia lagoon from pollution caused by wastewater and grazing animals. In addition, grants to two aromatic and medicinal plant cooperatives in Oriental helped the development and implementation of conservation measures on more than 65,000 ha of endangered Mediterranean woodland and steppe (22,000 ha under improved management in 2013).

### **Analysis Of The USAID-Morocco 2013-2017 CDCS Relative to Conservation**

USAID-Morocco's development goals are largely directed by the US government's broader focus for the Middle East. Consequently, the USG's broader mission is being addressed in Morocco via the three primary development objectives in the approved 2013-2017 USAID-Morocco CDCS, which are consistent with previous Country Assistance Strategies (CAS):

#### **USAID-Morocco 2004-2008 CAS:**

- 1) Increase Economic Growth
- 2) Promote International Trade

#### **USAID-Morocco 2008-2012 CAS:**

- 1) Mitigate Drivers of Youth Disaffection And Marginalization
- 2) Reduce Poverty and Increase Economic Growth
- 3) Expand Democratic Reform and Improve Governance
- 4) Reinforce Peace and Security



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## USAID-Morocco 2013-2017 CDCS:

- 1) Enhanced Employability of Targeted Youth
- 2) Increased Civic Participation in Governance
- 3) Enhanced Educational Attainment for Youth at the Primary Level

The 2013-2017 USAID-Morocco program intends to focus on economic growth and peaceful reform via improving citizen involvement in public policy and supporting civil society organizations that promote policy reform. None of these objectives are intended to be directly associated with biodiversity and forest conservation. Indeed, considering there have not been any explicit environmental objectives in the USAID-Morocco Mission Country Assistance Strategy plans in the past decade or in the current CDCS, USAID is on course for having no explicit conservation goals in its development plans for Morocco for at least three consecutive 5-year Development Strategies. Although USAID has engaged in a number of indirect conservation measures during the previous 2-3 CAS cycles, their goals have been mainly economic and they have primarily occurred *post hoc* once the CAS and CDCS have been developed, approved, and funds apportioned, and in which there have been no stated conservation objectives.

It is certain that the USAID-Morocco Mission has very good intentions for helping both Moroccan society and its environment and it has implemented many conservation actions during its tenure. In addition, USAID intends to implement conservation in some form during the current CDCS. Understandably, budgetary constraints and USG security, foreign aid and relations goals largely influence development objectives. However, data indicate that when conservation measures are implemented *post hoc* after CAS or CDCS development objectives that exclude conservation have been approved, substantive long-term success is diminished. Analysis of conservation initiatives in Morocco for the past 3 decades as well as consensus among external experts indicates that USAID needs to include environmental considerations *a priori* and throughout the CDCS planning and development process for its future 5-year strategies in order to secure meaningful and sustainable conservation successes. Furthermore, it is recommended that a comprehensive biodiversity and forestry assessment for Morocco be conducted in advance of the next CDCS planning process.

In addition to the legal requirements of FAA sections 117, 118, and 119, one of the most judicious reasons for including explicit environmental objectives in its CDCS and incorporating conservation *a priori* and throughout the CDCS process are the unassailable axioms of USAID itself regarding conservation, which will aid in achieving other CDCS development objectives:

*“Biodiversity is essential to human well-being.”* (USAID 2013. Biodiversity Conservation And Forestry Programs: FY 2012 Results And Funding.)

*“USAID recognizes that improving livelihoods, security, and human health depends on conserving biodiversity in healthy ecosystems.”* (USAID 2005. Biodiversity Conservation – A Guide for USAID Staff and Partners.)

History proves across all societies that true and enduring sustainable development, growth, governance, peace, and prosperity are simply not possible without a healthy environment and renewable or enduring natural resources upon which society depends. It is worthy to emphasize the insightful premise upon which the Foreign Assistance Act, Part 1, Section 117\71\Environment and Natural Resources along with Sections 118 and 119 are based and which highlight several relevant issues for the USAID-Morocco Mission and its 2013-2017 CDGS:

*“Congress finds that if current trends in the degradation of natural resources in developing countries continue, they will severely undermine the best efforts to meet basic human needs, to achieve sustained economic growth, and to prevent international tension and conflict....*

*It is, therefore, in the economic and security interests of the United States to provide leadership both in thoroughly reassessing policies relating to natural resources and the environment, and in cooperating extensively with developing countries in order to achieve environmentally sound development...*

*Special efforts shall be made to maintain and where possible restore the land, vegetation, water, wildlife and other resources upon which depend economic growth and human well-being especially that of the poor.”*

The direct links and interrelationships between environmental degradation, socio-economics, stability, and sustainable growth are indisputable realities (figure 1). In fact, this relationship extends far beyond sustainable development and includes tension, conflict, poverty, cooperation and partnership (including for business and trade), stable and transparent governance, disaffection, terrorism, and even gender and education, among others – indeed, all of the USG’s goals in Morocco and the Middle East (figure 2).

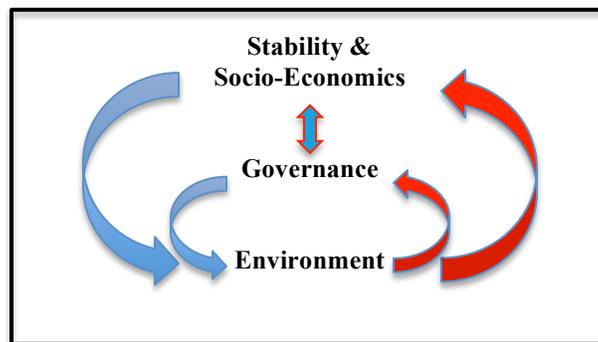


Figure 1. Interdependencies and influences among socio-economics, governance and the environment.



Figure 2. Critical issues in Morocco, which are key USG foreign relations and aid goals that are also causes for and strongly influenced by environmental degradation.

History clearly demonstrates that problems involving the environment, particularly natural resources (including forests, water, and biodiversity) are often the foundation for and/or lead to the causes of the issues that the USG, the EU, and other governments and institutions individually and together have been attempting to address around the world for centuries. USAID recognizes this in its mission:

*“It is well established that conservation, economic growth and governance are interdependent. Because of this interdependence USAID programs focus on biodiversity conservation as a critical component of wider development goals.”* (USAID 2005. Biodiversity Conservation – A Guide for USAID Staff and Partners.)

In support of this philosophy, USAID states that it is necessary to pursue both direct and indirect conservation measures because biodiversity relates directly to and influences U.S. foreign assistance goals by:

***“Promoting Transformational Development.*** *The conservation and sustainable management of biodiversity can strengthen participatory governance and enhance economic growth and human quality of life by conserving the resources and ecosystems people depend on for their well-being, therefore contributing to USAID’s goal of promoting transformational development.”*

***“Strengthening Fragile States.*** *The equitable and transparent conservation and management of biodiversity through capacity and institution building can improve governance systems, reduce conflict over resources, contribute to political and social stability and address the root causes of many unmet basic human needs, strengthening fragile states.”*



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***“Supporting U.S. Geostrategic Interests.*** *The sustainable and equitable management, governance and conservation of biodiversity can contribute to increased stability and prosperity in areas of the world that the U.S. government has identified as geostrategic priorities.”*

***“Providing Humanitarian Relief.*** *Conserving intact ecosystems and biodiversity can play an important role in mitigating or minimizing the impacts of natural disasters (such as floods, landslides, droughts), violent conflict and resulting humanitarian emergencies. Additionally, taking appropriate measures during the provision of humanitarian relief can minimize the impacts of these activities on local ecosystems and lay the foundation for longer-term development.”*

***“Mitigating Global and Transnational Issues.*** *In addition to contributing to other development goals, conserving biodiversity is a goal of U.S. foreign assistance in its own right. Biodiversity is a critical global resource for current and future generations, and USAID has a clear mandate to conserve this resource.”*

## **Recommended Policy Framework**

Given the interdependent nature of these issues and the unquestionable reality that biodiversity is essential to human well-being, it is recommended that USAID adopt an internal policy framework that would both mandate more concerted focus on conservation while achieving the primary foreign development goals of the Agency and tie them together. As with climate change, which can provide a common modality among Mission goals and advance greater successes, the following four principles can serve as a guiding policy framework ensuring that each objective is successful while synergistically enabling more comprehensive achievement for the mission’s overall development goals.

- 5) Equitable, Fair, and Sustainable Socio-Economic Development
- 6) Good Governance
- 7) Environmental Conservation
- 8) Cultural Preservation

It has been demonstrated in practice and in decades of research through multiple indicators that, if policies and legislation are required to fall within these four guiding principles, there is a significantly higher probability of achieving most, if not all, of the types of development goals adopted by USAID with greater success and public support. Indeed, at least 30% of the countries of the world are in the process of adopting this framework in principle to guide their national policies and economies. Therefore, it is recommended that USAID-Morocco use these four tenets as its guiding policy for refining the current CDCS and in planning future CDCS development and goals.



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## **Opportunities For USAID Enhancement of Biodiversity And Forest Conservation in Morocco**

Although the 2013-2017 USAID-Morocco CDCS does not have explicit conservation objectives, it notes that “opportunities to support enhanced conservation through democracy and governance programming” are possible and advocacy for biodiversity and forest conservation could be linked to CSO support. In reality, several opportunities exist for conservation via the new CDCS as well as to build on recommendations in the 2008 Morocco Biodiversity and Tropical Forestry Assessment (Ecodit 2008), which also notes several indirect opportunities within similar non-conservation related objectives.

A number of conventional conservation measures are available for USAID in Morocco. These can include direct aid, increasing the protected area network, community cooperative management, value chains, training (particularly regarding technical skills and Best Management Practices), capacity-building (including for government, Civil Society Organizations, industry, local public), and public awareness and education, among many others. However, many of these methods may not be possible within the structure, objectives, and budget of the current CDCS.

The three 2013-2017 USAID-Morocco CDCS development objectives are as follows with the inclusion of gender equality as an important focus throughout the five year plan:

### **1) Enhanced Employability of Targeted Youth**

USAID intends to address youth employability by adopting a pro-growth strategy with the intention of attaining higher productivity and competitiveness as a means for stimulating economic growth and job creation. In particular, USAID intends to enhance youth employability by focusing on the transition from education to employment for university and vocational students and recent graduates. The Mission’s objective is to make youth more employable and help Morocco adopt demand-led education and training systems that are adaptable and allied with high impact sectors and industries.

### **2) Increased Civic Participation in Governance**

USAID believes that by increasing the capacity of civil society to engage the government on behalf of citizens and facilitating the development of institutionalized mechanisms of civic participation in government decision-making, Morocco will have a better capacity to implement its reform agenda in a peaceful and sustainable manner. USAID intends to assist political parties to be more representative while supporting CSOs to build their management along with their organizational and advocacy capacities. USAID will also provide capacity building for specific Ministries and local government entities, which will also facilitate citizen participation and ensure sustainable participatory governance.



### 3) Enhanced Educational Attainment for Youth at the Primary Level

Congressionally earmarked funds for foreign aid education initiatives are highly restricted and primarily limited to literacy and education access. Because Morocco has not been categorized as a low access country, USAID intends to promote higher levels of educational achievement and improve the learning outcomes of students by targeting primary level learning attainment. USAID will focus on improved reading instruction and systemic enhancements designed to support reading initiatives. Interventions are intended to target teaching methods and learning materials at the school level along with capacity building at the institutional level. USAID also intends to implement projects to reduce or prevent school dropout in high-risk areas via coordination with CSOs and community-based groups. Finally, it may be possible for USAID-Morocco to develop supplementary reading materials.

Although the goals and objectives of the 2013-2017 CDCS do not support or hinder biodiversity and forest conservation, none of these development objectives are linked to the actions needed for biodiversity and forest conservation in Morocco as called for in the Foreign Assistance Act. Given similar CAS objectives, the 2008 Biodiversity and Tropical Forestry Assessment (Ecodit 2008) recommended several actions, such as biodiversity-based value chains, full participatory co-management systems, and policy and governance reforms that would advance conservation for Morocco while addressing at two of the 2008 CAS objectives:

- 1) Reduce Poverty And Increase Economic Growth
- 2) Expand Democratic Reform And Improve Governance

The recommended conservation actions in the 2008 Assessment remain pertinent for the current CDCS objectives, but the 2013-2007 mandate and budget are more restricted, making it difficult to implement such actions. Funding has already been apportioned to the three current CDCS development objectives and there is little opportunity for direct conservation action and programmatic changes. Given the current CDCS objectives, some indirect conservation measures more germane to this current CDCS with less budgetary need could entail:

- ❖ Capacity Development for Local Government and Environmental CSOs
- ❖ Green Job Creation, e.g. Reforestation, Natural Resource Management, etc.
- ❖ Green Economy Promotion – Alternative Energy Sector Addressing Climate Change
- ❖ Higher Education Development in Green Economy And Energy Sectors
- ❖ Primary School Student Education Training and Materials in Biodiversity Conservation
- ❖ Teacher Training and Education in Biodiversity Conservation
- ❖ Community Participation, Governance and Empowerment in Green Legislation, Policy Implementation, and Green Party Development



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## **Recommended Biodiversity and Forestry Conservation Measures**

It is advisable that the USAID-Morocco Mission attempt to implement some of the above recommendations, which are substantive and would lead to a number of improvements in Moroccan biodiversity conservation on many levels. It is understood that although these recommendations may not necessarily require direct aid and there are a number of creative solutions, there may be the need for funding that could infringe on the finalized CDCS budget and programs. Nevertheless, it was noted by USAID-Morocco mission staff that implementing conservation measures that are more *indirect* without significant budget or programmatic alterations remains possible at this time. In fact, indirect conservation could be linked to each of the three CDCS development objectives at little to no cost.

It is important to note the distinction between the recommended conservation measures resulting from the current review compared with some previous initiatives. In effect, many of the previous initiatives like the MEC Project (DAI 2013) were developed with the principal goal of economic growth and/or income generation and the associated conservation objective is, for example, intended for agricultural use rather than biodiversity. Again, while such initiatives are valuable and might have tertiary influences on other aspects of the environment, initiatives without specific biodiversity goals are less effective for conservation and those with economic development goals that are not intended for biodiversity conservation can have negative consequences on biodiversity. However, all of the measures advised as a result of the current review focus on biodiversity conservation first, through which other objectives of the CDCS will be achieved without any negative impacts on the environment or CDCS programming.

Given the CDCS focus and budgetary limitations and based on recommendations by experts during this review, the following are specific recommendations for USAID-Morocco to integrate more focused indirect conservation measures into its 2013-2017 CDCS. These actions require little to no investment, particularly if implemented via outsourcing and partnerships with other organizations and agencies, and will achieve the Mission's primary CDCS goals. Each of these actions can entail special focus on gender parity and can integrate climate change, sustainable growth, and peaceful reform as common themes. Furthermore, in addition to these specific actions directly related to the CDCS, it is advised that a general education objective could be achieved via repackaging USAID-Jordanian or other environmental education leaflets for the general public in Morocco.

### **CDCS Development Objective 1: Enhanced Employability Of Targeted Youth**

- 1) Outsourced Capacity and Technical Skills Training in Alternative Energy and Green Economy Sector (University Credit, Training Courses, Community College Models)
- 2) Outsourced Technical Skills Training and Enhanced Higher Education Development in Natural Resource Management and Best Management Practices for Agriculture, Biodiversity, Forestry, Wetlands, Coastal and Pelagic Fisheries, and Wildlife



## **CDCS Development Objective 2: Increased Civic Participation In Governance**

- 1) Outsourced Capacity-Building for Forestry & Terrestrial and Marine Biodiversity
  - a. Government Ministries
  - b. Advocacy – Civil Society Organizations
  - c. Local Public (Best Management Practices)
- 2) Outsourced Green Party and/or CSO Green Party Capacity Development
  - a. Focus on Governance, Environment, Gender, and Peaceful Reform

## **CDCS Development Objective 3: Enhanced Educational Attainment For Youth At The Primary Level**

- 1) Supplementary Reading Materials

## ***Details of Recommended Biodiversity and Forestry Conservation Measures***

### **CDCS Development Objective 1: Enhanced Employability Of Targeted Youth**

- 1) Outsourced Capacity and Technical Skills Training in Alternative Energy and Green Economy Sector (University Credit, Training Courses, Community College Models).
- 2) Outsourced Technical Skills Training and Enhanced Higher Education Development in Natural Resource Management and Best Management Practices for Agriculture, Biodiversity, Forestry, Wetlands, Coastal and Pelagic Fisheries, and Wildlife.

Throughout this review and associated expert interviews, it was emphasized that capacity and technical skills remain a critical need for Moroccan post-graduates, government ministries, and local communities. Indeed, this was a specific request by representatives of the Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification. It was suggested that while the ability to maintain jobs is important, such problems also relate to employment dissatisfaction, including relative to viable and relevant careers. Given the global emphasis on climate change and associated large investments in developing the green economic sector, it is recommended that one focus of enhancing youth employability be capacity development dedicated to both the green economy sector (i.e. renewable energies) and natural resource and agricultural management (and forest restoration, etc.) relative to Best Management Practices (BMPs) and the effects of climate change.



It is recommended that this USAID-Morocco development objective not only focus on enhancing career services. There are good possibilities to partner with organizations, businesses, and universities to provide and/or enhance technical skills, employability, and entrepreneurial capacities for the fast growing, high demand renewable energy sector, which helps address the effects of climate change, both locally and globally. In addition, there are very strong possibilities to partner with willing USG agencies, such as the US Forest Service (USFS), US Fish and Wildlife Service (USFWS), US National Park Service (NPS), Bureau of Land Management (BLM), and the National Marine Fisheries Service (NMFS), all of which have international programs that can help enhance the most dominant sectors of the Moroccan economy and improve agricultural, forestry, and fisheries practices, develop viable innovations, and create alternative products.

Focusing on this manner for CDCS Development Objective 1 will increase youth employability and career viabilities while advancing the Moroccan economy at little to no cost to USAID-Morocco. For example, because the US natural resource agencies mentioned have international programs and direct funding for technical training, projects, and collaborations, there would be little cost to USAID. In fact, the USFS is currently working with the Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification in Morocco on various projects and has presented five possible new projects to partner with USAID-Morocco:

- 1) Workforce Mentoring Programs for College Students
- 2) Complement Primary Workforce Development Programs
- 3) Eco-Tourism Development
- 4) Collaborate with Corps Africa on a Natural Resource Management Program
- 5) Expanding USFS Rangeland Management Projects

Any of these new USFS partnership projects would be beneficial to the youth, environment, and economy of Morocco. Such projects would also come at minimal cost to USAID-Morocco's budget and programming while helping achieve its current CDCS objectives. In fact, during the expert interview for this review, representatives of the Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification suggested that eco-tourism and complementary workforce development programs would be desired and particularly helpful.

In addition, numerous possibilities exist to partner with universities and and/or individual professors, teachers, and consultants to provide many of these training needs in natural resource management, alternative energies, and business start-ups for which Moroccan students can also receive US or European university credit if desired. There are many models in practice around the world given via universities, community colleges, institutes, NGOs, businesses, US and European government agencies, and private consultancies. This can include short classes, field courses and seminars from 2-3 days to 6-8 weeks, and 1-month specialized training or more in-depth and comprehensive semester length courses.

A model by the Denver Institute for Urban Studies (DIUS) can serve as a particularly germane example for this USAID-Morocco CDCS objective. As the flagship of its employability program for the urban poor and disaffected youth in Denver, DIUS offered free 1-month training



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programs focused solely on the green economy sector ranging from technical skills for solar and wind power to business management and starting up new renewable energy businesses. This program was funded by federal and state sources as well as the private sector and taught by experienced professors and professionals. In addition, students not only gained new skills and became notably more employable, but they also received university credit and diplomas – all of which significantly raised confidence and self-esteem, provided strong possibilities for new careers in a growing industry that is also addressing climate change, and decreased disaffection and violence.

Furthermore, new innovations in farming and agriculture are being developed in the US and Europe that minimize water, chemical, and fertilizer use while maximizing output. In addition, new farming and agriculture products are available, such as a) low impact high protein fodder, b) low-impact aquaculture that also provides natural fertilizer for hydroponic vegetables and uses less water than conventional agriculture, and c) growing apparatus and techniques for cultivating in much smaller spaces, including vertically. Each of these and many others reduce over-grazing, deforestation, erosion, water use, and pollution and a number of programs and funding opportunities exist in these sectors.

## **CDCS Development Objective 2: Increased Civic Participation In Governance**

- 1) Outsourced Capacity-Building for Forestry & Terrestrial and Marine Biodiversity
  - a. Government Ministries
  - b. Advocacy – Civil Society Organizations
  - c. Local Public (Best Management Practices)

As part of USAID’s objective to improve the management and functioning of Moroccan CSOs to increase civic participation in governance, it is recommended that either attention be given to or that USAID offer Requests for Proposals targeting CSOs specializing in biodiversity, forestry, fisheries, endangered species, climate change, or other environmental issues. If USAID-Morocco cannot provide or outsource training specifically on building advocacy capacity in these areas, it is nonetheless beneficial for these CSOs to receive requisite capacity help to improve or enhance their organizational management and functioning, which will indirectly aid their advocacy work on these issues. Such a program does not necessarily require additional funding or programmatic changes to USAID’s CDCS. Furthermore, as with the youth employability program, CSO capacity building can be outsourced or partnered with external NGOs, professional associations, institutes, government agencies, and private consultants.

- 2) Outsourced Green Party and/or CSO Green Party Capacity Development
  - a. Focus on Governance, Environment, Gender, and Peaceful Reform

Work and training similar to the above can be provided for Moroccan Green Party and/or CSOs focused on Green Party issues or development. The Green Party is particularly relevant for USAID-Morocco’s 2013-2017 CDCS because it is normally within the mission of most Green



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Parties to focus on multiple issues other than the environment, including gender equality, peaceful reform, good governance, wage inequities, and employment conditions. Thus, by helping to develop, building the capacity of, or providing training for this sector USAID will be achieving multiple objectives. It is understood that if as a matter of policy USAID is unable or prefers to avoid supporting particular political parties, the same system that it intends to provide for capacity building for CSOs can be utilized here, i.e. USAID can offer Requests for Proposals to all political parties and CSOs and ensure that attention is given to those focused on USAID's agenda regarding the environment, gender, governance, and peaceful reform.

A small grants program ranging from \$5,000 - \$50,000 USD is also advised. Although such a program could require funds from the Mission budget, such a program could also be in partnership through other agencies, external institutions, and/or NGOs. Many good small CSOs and political parties would benefit significantly and give extensive longevity even to such small grants.

### **CDCS Development 3: Enhanced Educational Attainment For Youth At The Primary Level**

#### 1) Supplementary Reading Materials

As noted above, there are significant restrictions on USAID-Morocco's educational funding due to Congressional earmarks specifically targeting literacy at the primary school level. Consequently, the only possibility for integrating conservation with this development objective is via reading materials. It has been demonstrated in other countries that improving literacy skills in primary school aged children can occur via reading materials with simple environmental themes. In addition, it is recommended that supplementary reading materials with environmental themes be provided.

In both cases, it has been shown that children develop greater interest in reading and writing when it involves interesting thematic material, particularly material relevant to their surroundings and communities. Given that a) two of the most significant sectors of the Moroccan culture, economy, and society as a whole are agriculture and the environment, b) the very strong dependence on natural resources and the environment and the relevancy of issues such as climate change, and c) the proven positive effects of early learning, it is certain that simplified reading materials with content such as these that are also focused on learning how to read and write would stimulate learning both in literacy and these issues. Once again, there are many NGO and university programs (including via teachers on sabbatical, graduate student projects, etc.) that either USAID-Morocco can partner with at no cost to programming or budget or which can provide such materials, funding and teacher training. It truly is a win-win development option.



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## Next Steps and Conclusion

In conclusion, there are many options and opportunities for USAID-Morocco to integrate conservation within its 2013-2017 Country Development Cooperation Strategy. The measures outlined in this review would not only satisfy US Foreign Assistance Act legal requirements, but would need little to no investment by USAID, would not impede pre-approved funding or programming, and will enhance youth employability, truly sustainable economic growth, improved governance and citizen participation, gender equality, and literacy while addressing essential conservation needs, including climate change. Although they are indirect, these measures are focused and maintain the principal goal of biodiversity conservation first and would not have any negative impacts. Thus, even as indirect measures these actions provide a win-win scenario.

The advised indirect conservation measures are recommended as actions to advance conservation within the existing CDCS objectives with little to no budgetary or programmatic infringement. Given that USAID-Morocco is currently not in a position to implement or staff such measures, their success would require external expert involvement.

It is therefore advised that USAID-Morocco engage in partnerships, including via Requests for Proposals with US and European universities, NGOs, other government agencies, international institutions, and outside experts to provide assistance with developing these measures and/or their implementation. Many external institutions and other government agencies may also have available funding. However, as it is already more than one year into this development cycle and given limited timing and if the budget allows, it would be advisable to give special attention to private firms and/or experts to help develop, guide, and perhaps implement some of these measures. Most NGOs, firms, and experts, including teachers or professors on sabbatical, graduate students, and professional consultants are able to provide more streamlined and expedient services with less bureaucratic delays and overhead requirements.

As a final option for both the development and implementation of appropriate conservation measures, it would be advisable for USAID-Morocco to establish either a new position or an extended consultancy, either of which staffed with at least one biodiversity expert who has commensurate education and experience to guide the CDCS process relative to conservation. Such an individual should have education and experience in multiple fields of Conservation Science, with primary expertise in biodiversity science as well as primary or secondary expertise applying scientific information to policy or legislative action, community conservation, Civil Society Organizations, sustainable development, education, and strategic planning. Given staffing and mandate restrictions, it would be highly advantageous for USAID to have a professional with this expertise attached to the Mission who can both guide and advocate suitable conservation measures in conjunction with other Mission goals. In lieu of a permanent position it is possible to achieve parallel results via an intermittent consultancy by the same individual or firm throughout the process, e.g. 4-8 weeks as needed during each of the planning, development, and implementation stages of the CDCS. Keeping such a consultancy restricted to the same individual(s) or firm will better ensure consistency and success.



## **APPENDIX I**

### **Literature Reviewed And Expert Interviews**



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## **Expert Interviews and Meetings**

Expert interviews with Moroccan government ministries, USAID, and the UNDP are listed below:

### ***Ministère Délégué Chargé De L'environnement***

\* Azzeddine Daaif, Chef du Service de la Coopération Multilatérale, Division de la Coopération Internationale, Direction du Partenariat, de la Communication et de la Coopération

### ***USAID***

- \* Abderrahim Bouazza Program Office
- \* Fatine Bellamine, Mission Environmental Officer, Economic Growth Office
- \* Matthew Burton, Director, Economic Growth Office
- \* Andrew Colburn, Director, Democracy and Governance Programme
- \* Grace Lang, Director, Office of Youth and Human Development
- \* Dana Mansuri, Director, USAID-Morocco
- \* Alae eddin Serra, Development Assistance Specialist, Democracy and Governance Office

### ***Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification***

\* M. Imad Lebbar, Chef de la Division des Etudes de la Programme et de la Coopération.

### ***United Nations Development Programme***

\* Fouad Bergigui, Programme Analyst, Environment and Sustainable Development Unit

### ***Chargé de Mission auprès de la Direction Générale at OCP Group***

\* Driss Ennaany



## **APPENDIX II**

### **About the Author**



**Author, Dr. David M. Augeri**

Dr. Augeri is a biodiversity conservation expert and holds a Ph.D. in Wildlife Ecology, Biodiversity, and Conservation Biology from the University of Cambridge, a M.Sc. in Ecology and Forest Sciences from Colorado State University, and a B.A. in Biology and Geology from Colby College. Dr. Augeri is also CEO of Biodiversity Unlimited and is Associate Assistant Professor in the College of Natural Resources at Colorado State University, Research Associate with the Craighead Institute, Editorial Review Board Member of the Journal of Zoo Biology, and Board Member of several environmental organizations. Dr. Augeri has been an advisor to the IUCN and Species Survival Commission, is a member and advisor to several SSC Species Specialist and Expert Groups, is a former National Geographic Society, Wildlife Conservation Society, Royal Society of London, and Smithsonian Institute Research Fellow and/or consultant, and most recently Senior Advisor/Consultant to the Royal Government of Bhutan, WWF-Malaysia, USAID, and other entities.